

PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/718,913  
Applicant : John M. McBean et al.  
Filed : November 21, 2003  
T.C./A.U. : 3764  
Examiner : Not Yet Assigned

Confirmation No.: 2397

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Docket No. : MIT-152AUS  
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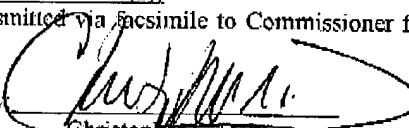
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19 MAR 03  
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and Mail Deposit

By

  
Christopher S. Daly  
Reg. No. 37,303

INFORMATION DISCLOSURE STATEMENT

MS Group Art Unit #3764  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

It is desired to cite for the record in this application the enclosed documents listed on the attached copy of PTO form PTO/SB/08A (Formerly #1449). The paragraph(s) marked below are applicable to this Information Disclosure Statement.

[ X ] (1) The enclosed Information Disclosure Statement is being filed: within three months of the filing date; or within three months of the entry of the national stage of the above-identified application; or before the mailing of a first Office Action on the merits; or before the

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mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. §1.114. Accordingly, Applicant(s) believes that no fee or statement is required.

[ ] (2) Pursuant to 37 C.F.R. § 1.97(c), the enclosed Information Disclosure Statement is being filed before the mailing date of a final action or a notice of allowance and is accompanied by the fee set forth in 37 C.F.R. § 1.17(p).

SUBMISSION UNDER 37 C.F.R. § 1.97(c)

INCLUDING A STATEMENT UNDER 37 C.F.R. § 1.97(e)(1)

[ ] (3) Pursuant to 37 C.F.R. § 1.97(c), the enclosed Information Disclosure Statement is being filed before the mailing date of a final action or a notice of allowance and is accompanied by a statement under 37 C.F.R. § 1.97(e)(1). The undersigned hereby states that each item of information contained in the attached Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application mailed not more than three months prior to the filing of the accompanying Information Disclosure Statement.

SUBMISSION UNDER 37 C.F.R. § 1.97(c)

INCLUDING A STATEMENT UNDER 37 C.F.R. § 1.97(e)(2)

[ ] (4) Pursuant to 37 C.F.R. § 1.97(c), the enclosed Information Disclosure Statement is being filed before the mailing date of a final action or a notice of allowance and is accompanied by a statement under 37 C.F.R. § 1.97(e)(2). The undersigned hereby states that no item of information contained in the accompanying Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned, after making reasonable inquiry, no item of information contained in the accompanying Information Disclosure Statement was known to any individual having a duty of disclosure as set forth in 37 C.F.R. § 1.56 (c) more than three months prior to the filing of the accompanying Information Disclosure Statement.

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SUBMISSION UNDER 37 C.F.R. § 1.97(c)INCLUDING STATEMENTS UNDER 37 C.F.R. §§ 1.704(d) AND 1.97(e)(1)

☐ (5) Pursuant to 37 C.F.R. § 1.97(c), the enclosed Information Disclosure Statement is being filed before the mailing date of a final action or a notice of allowance and is accompanied by statements under 37 C.F.R. §§ 1.704(d) and 1.97(e)(1). The undersigned hereby states that each item of information contained in the attached Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application mailed not more than three months prior to the filing of the accompanying Information Disclosure Statement and was not received by any individual designated in §1.56(c) more than thirty days prior to the filing of the accompanying Information Disclosure Statement.

SUBMISSION UNDER 37 C.F.R. § 1.97(d)INCLUDING A STATEMENT UNDER 37 C.F.R. §1.97(e)(1)

☐ (6) Pursuant to 37 C.F.R. § 1.97(d), the enclosed Information Disclosure Statement is being filed on or before payment of the issue fee and is accompanied by a statement under 37 C.F.R. § 1.97(e)(1) and the fee required under 37 C.F.R. § 1.17(p). The undersigned hereby states that each item of information contained in the accompanying Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the Information Disclosure Statement.

SUBMISSION UNDER 37 C.F.R. § 1.97(d)INCLUDING A STATEMENT UNDER 37 C.F.R. §1.97(e)(2)

☐ (7) Pursuant to 37 C.F.R. § 1.97(d), the enclosed Information Disclosure Statement is being filed on or before payment of the issue fee and is accompanied by a statement under 37 C.F.R. § 1.97(e)(2) and the fee required under 37 C.F.R. § 1.17(p). The undersigned hereby states that no item of information contained in the accompanying Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned, after making reasonable inquiry, no item of information contained in the accompanying Information Disclosure Statement was known to

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any individual having a duty of disclosure as set forth in 37 C.F.R. § 1.56(c) more than three months prior to the filing of the accompanying Information Disclosure Statement.

SUBMISSION UNDER 37 C.F.R. § 1.97(d)

INCLUDING STATEMENTS UNDER 37 C.F.R. §§ 1.704(d) AND 1.97(e)(1)

[ ] (8) Pursuant to 37 C.F.R. § 1.97(d), the enclosed Information Disclosure Statement is being filed on or before payment of the issue fee and is accompanied by statements under 37 C.F.R. §§ 1.704(d) and 1.97(e)(1) and the fee required under 37 C.F.R. § 1.17(p). The undersigned hereby states that each item of information contained in the attached Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application mailed not more than three months prior to the filing of the accompanying Information Disclosure Statement and was not received by any individual designated in § 1.56(c) more than thirty days prior to the filing of the accompanying Information Disclosure Statement.

The filing of this Information Disclosure Statement is not a representation by the undersigned as to personal knowledge of the contents of every word or phrase of the material enclosed or that reliance on other suitably trained professionals has not been made.

If a search report of a searching agency is enclosed identifying the nature of the relevance of each document, such a designation is deemed to satisfy Rule 98(a) (3) even if in a foreign language, since the few terms of relevance therein are deemed of universal cognizance. However, Applicant(s) does not necessarily adopt the position reflected by that report.

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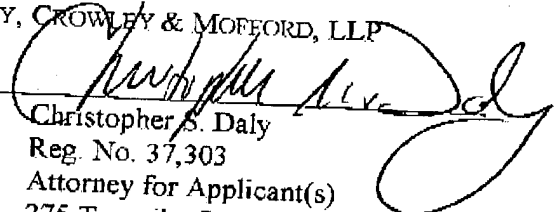
The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 500845.

Dated: 19 MAR 03

Respectfully submitted,

DALY, CROWLEY & MOFFORD, LLP

By:

  
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Reg. No. 37,303

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PTO/SB/98B (02-03)  
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Substitute for form 1448/PTO

**Complete if Known**

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)	<b>Application Number</b>	10/718,913
	<b>Filing Date</b>	November 21, 2003
	<b>First Named Inventor</b>	John M. McBean
	<b>Art Unit</b>	3764
	<b>Examiner Name</b>	Not Yet Assigned
	<b>Attorney Docket Number</b>	MIT-152AUS

Sheet 1 of 2

<b>OTHER PRIOR ART—NON PATENT LITERATURE DOCUMENTS</b>			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Benjuya et al.; "Hybrid Arm Orthosis," American Academy of Orthotists and Prosthetists, Journal of Prosthetics & Orthotics: <a href="https://web.mit.edu/activejoint/brace/Private/priorart/3.html">https://web.mit.edu/activejoint/brace/Private/priorart/3.html</a> ; pages 1-3	
		Brown et al.; "The Exoskeleton Glove for Control of Paralyzed Hands," 1993 IEEE; 1050-4729/93; pages 642-647	
		Harwin et al.; "A Review of Design Issues in Rehabilitation Robotics with Reference to North American Research," IEEE Transactions on Rehabilitation Engineering, Vol. 3, No. 1, March 1995; 1063-5528/95; pages 3-13	
		Homma et al.; "An Upper Limb Motion Assist System: Experiments with Arm Models," Proceedings of the 1998 IEEE/RSJ Int'l Conference on Intelligent Robots and Systems, Victoria, B.C., Canada; October 1998; 0-7803-4485-0/98; pages 758-763	
		Johnson et al.; "Development of a Mobility Assist for the Paralyzed, Amputee, and Spastic Patient," 1996 IEEE; 0-7803-3131-1/96; pages 67-70	
		Kawamoto et al.; "Comfortable Power Assist Control Method for Walking Aid by HAL-3," 2000 IEEE SMC TP1B2; 6 sheets	
		Kiguchi et al.; "An Exoskeletal Robot for Human Elbow Motion Support-Sensor Fusion, Adaptation, and Control," IEEE Transactions on Systems, Man, and Cybernetics-Part B: Cybernetics, Vol. 31, No. 3, June 2001; 1063-4419/01; pages 353-361	
		Krebs et al.; "Robot-Aided Neuro-Rehabilitation in Stroke: Three-Year Follow-Up," ICORR '99 International Conference on Rehabilitation Robotics, Stanford, CA; pages 24-41	
		Krebs et al.; "Increasing Productivity and Quality of Care: Robot-Aided Neuro-Rehabilitation," Journal of Rehabilitation Research and Development Vol. 37, No. 6, November/December 2000; <a href="https://web.mit.edu/activejoint/brace/Private/priorart/28.html">https://web.mit.edu/activejoint/brace/Private/priorart/28.html</a> ; pages 1-14	
		Krebs et al.; "Robot-Aided Neurorehabilitation," IEEE Transactions on Rehabilitation Engineering, Vol. 6, No. 1, March 1998; 1063/6528/98; pages 75-87	

<b>Examiner Signature</b>	<b>Date Considered</b>
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

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Substituted for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)				<b>Complete if Known</b>	
				Application Number	10/718,913
				Filing Date	November 21, 2003
				First Named Inventor	John M. McBean
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				Examiner Name	Not Yet Assigned
				Attorney Docket Number	MIT-152AUS
Sheet	2	of	2		

OTHER PRIOR ART—NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Lee et al.; "Power Assist Control for Walking Aid with HAL-3 Based on EMG and Impedance Adjustment Around Knee Joint;" Proceedings of the 2002 IEEE/RSJ Int'l Conference on Intelligent Robots and Systems, EPFL, Lausanne, Switzerland, October 2002; 2002 IEEE; 0-7803-7398-7/02; pages 1499-1504	
		Morita et al.; "Basic Study on Rehabilitation Support System for Upper Limb Motor Function;" AMC 2002 - Maribor, Slovenia; 0-7803-7479-7/02; 2002 IEEE; pages 127-132	
		Rosen et al.; "A Myoelectric-Based Powered Exoskeleton System;" IEEE Transaction Systems, Man, and Cybernetics-Part AP Systems and Humans, Vol. 31, No. 3, May 2001; 1083-4427/01; 2001 IEEE; pages 210-222	
		Seliktar et al.; "Evaluation of Functional Capabilities of People with Muscular Dystrophy as Potential Users of Power Orthoses;" ASME Summer Bioengineering Conference; 1999, June 16-20, Big Sky Montana; 2 sheets	
		Umetani et al.; "Skil Mate", Wearable Exoskeleton Robot;" 1999 IEEE; 0-7803-5731-0/99; pages IV-984 to IV-988	
		Wiegner et al.; "Design of a Triceps Orthosis for C5/C6 Quadriplegics;" 0-7803-0785-2/92; pages 1485-1486	

Examiner Signature	Date Considered
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

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